Insulin Products

Rapid-Acting

Admelog® SoloStar Pen, Admelog®
Insulin lispro (analog, conventional)
Duration: 4-6 hours (or 3-5 hours)

Afrezza®
Inhaled powdered Insulin (human, ultra-rapid)
Duration: 2.5-3 hours

Apidra® SoloStar, Apidra®
Insulin glulisine (analog)
Duration: 5-6 hour (or 3-5 hours)

Fiasp® Flex Touch, Fiasp® + PenFill
Insulin aspart (analog, ultra-rapid)
Duration: 4-6 hours (or 3-5 hours)

HumaLog® KwikPen
Insulin lispro (analog, conventional)
Duration: 4-6 hours

Lyumjev® KwikPen, Lyumjev® +Jr
Insulin lispro-aabc (analog, ultra-rapid)
Duration: 4-6 hours

NovoLog® FlexPen, NovoLog®
Insulin aspart (analog, conventional)
Duration: 4-6 hours

Intermediate-Acting

Humulin® N (U-100)
Insulin isophane or NPH (human)
Duration: 14-18 hours

Humulin® R (U-500) KwikPen, Humulin® R
Regular insulin (human)
Duration: ~21 hours (13-24 h)

Novolin® N (U-100) + FlexPen
Insulin isophane or NPH (human)
Duration: 14-18 hours

Intermediate + Rapid-Acting

Humalog® Mix 50/50 + KwikPen
Insulin lispro protamine (50%)/lispro (50%)
Duration: Up to 24 hours (analog)

Humalog® Mix 75/25 + KwikPen
Insulin lispro protamine (75%)/lispro (25%)
Duration: 16-20 hours (analog)

Novolog® Mix 70/30 + FlexPen
Insulin aspart protamine (70%)/aspart (30%)
Duration: Up to 24 hours (analog)

Long-Acting

Levemir® FlexPen, Levemir®
Insulin detemir (analog)
Duration: 20-24 hours

Basaglar® KwikPen + Tempo Pen
Insulin glargine (analog)
Duration: 24-30 hours

Lantus® SoloStar, Lantus®
Insulin glargine (analog)
Duration: 24-30 hours

Rezvoglar® KwikPen
Insulin glargine-aglr (analog, biosimilar^)
Duration: Up to 24 hours

Semglee®
Insulin glargine-yfgn (analog, biosimilar^)
Duration: 24-30 hours

Toujeo® SoloStar, Toujeo® Max
Insulin glargine (analog)
Duration: Up to 36 hours

Tresiba® FlexTouch, Tresiba®
Insulin degludec (analog, ultra-long)
Duration: 36-42 hours

Short-Acting

Humulin® R (U-100)
Regular insulin (human)
Duration: 6-8 hours

Novolin® R
Regular insulin (human)
Duration: 6-8 hours

Myxredlin®
Regular insulin (human) IV solution

Intermediate + Short-Acting

Humulin® 70/30 + KwikPen
Insulin isophane (70%)/regular insulin (30%)
Duration: Up to 24 hours (analog/human)

Novolin® 70/30 + FlexPen
Insulin isophane (70%)/regular insulin (30%)
Duration: Up to 24 hours (analog/human)

Long-Acting + GLP-1 RA
(glucagon-like peptide 1 receptor agonist)

Xultophy® 100/3.6
Insulin degludec + liraglutide (analog)
Duration: Up to 42 hours (degludec)

Soliqua® 100/33
Insulin glargine + lixisenatide (analog)
Duration: 24-30 hours (glargine)

^Insulin Biosimilars

At the time of writing (April 2023), there are **two** insulin biosimilars available in the United States:

1. **Rezvoglar®** (insulin glargine-aglr)
2. **Semglee®** (insulin glargine-yfgn)

Both are **interchangeable** biosimilars of **Lantus®**. It should be noted that these two products are **not biosimilars of Basaglar** (another distinct insulin glargine reference product), nor are they interchangeable with each other. Refer to the **FDA's Purple Book** for the most up-to-date list of approved biosimilars.

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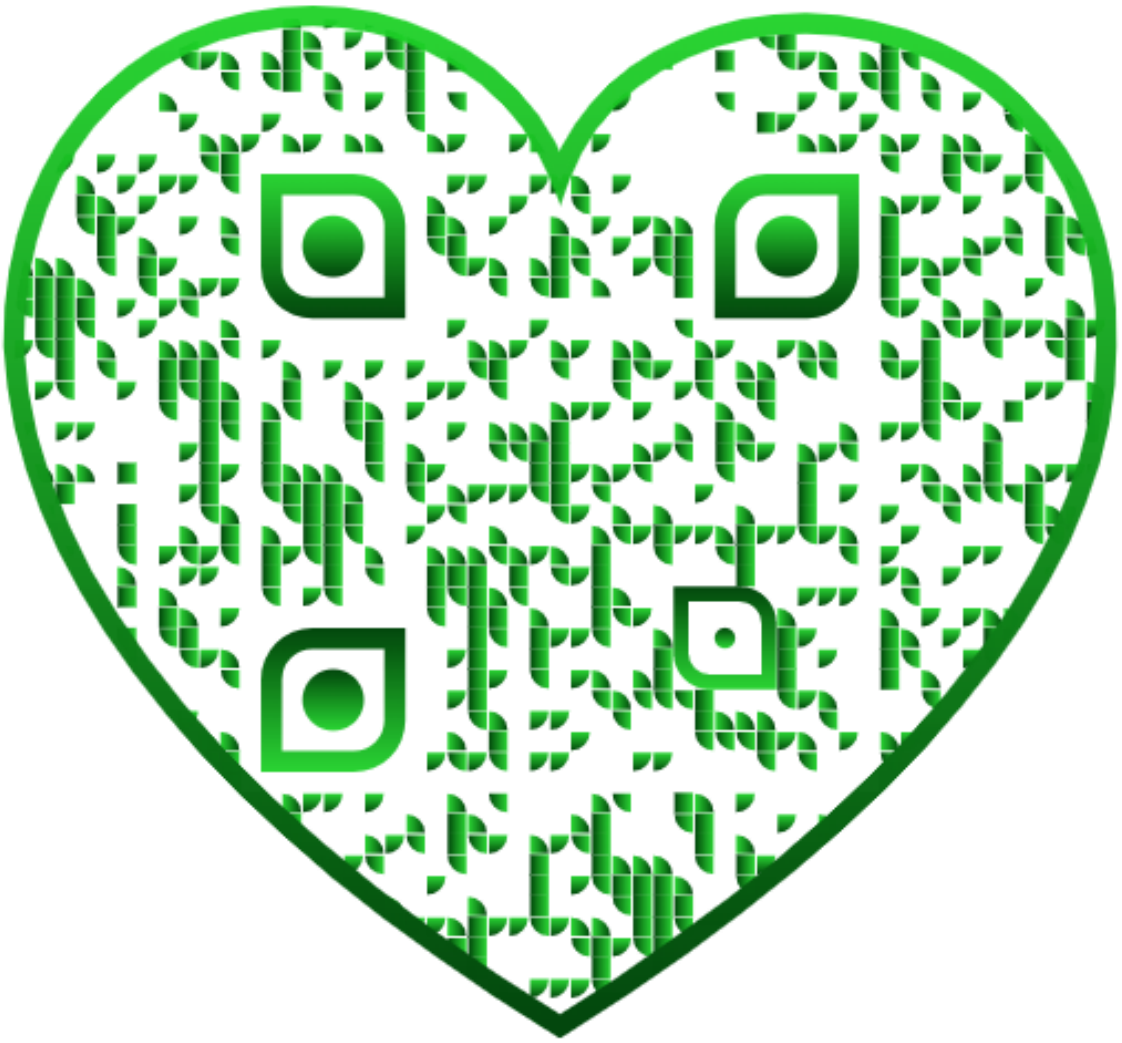
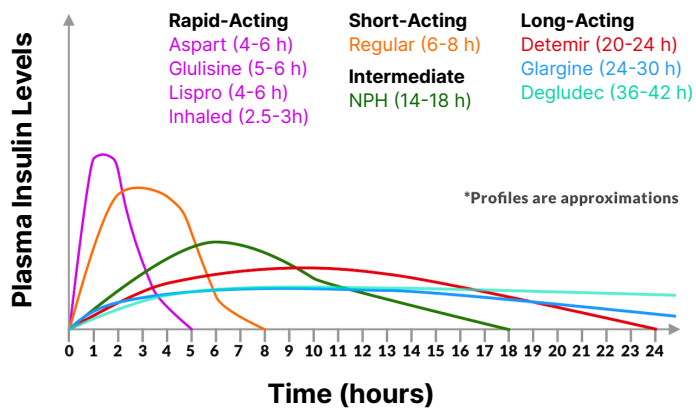


Insulin Products Storage

All products are good until their expiration date when kept **unopened and refrigerated** (36°F-46°F [2°C-8°C]).

BRAND	GENERIC	DAYS GOOD AT ROOM TEMP (≤ 86° F [30°C]) WHEN IN-USE	STORAGE WHEN OPENED/IN-USE
Admelog SoloStar pen	Insulin lispro	28 days	**Do not refrigerate**
Admelog vial	Insulin lispro	28 days	Room or Refrigerate (≤ 86° F [30°C])
Apidra SoloStar pen	Insulin glulisine	28 days (≤ 77° F [25°C])	**≤ 77°F (25°C), but do not refrigerate**
Apidra vial	Insulin glulisine	28 days (≤ 77° F [25°C])	Room or Refrigerated (≤ 77°F [25°C])
Basaglar KwikPen/Tempo Pen	Insuline glargine	28 days	**Do not refrigerate**
Fiasp FlexTouch pen	Insulin aspart	28 days	Room or Refrigerated (≤ 86°F [30°C])
Fiasp PenFill cartridge	Insulin aspart	28 days	**Do not refrigerate**
Fiasp vial	Insulin aspart	28 days	Room or Refrigerated (≤ 86°F [30°C])
Humalog KwikPen and cartridge	Insulin lispro	28 days	**Do not refrigerate**
Humalog vial	Insulin lispro	28 days	Room or Refrigerated (≤ 86°F [30°C])
Humalog Junior KwikPen	Insulin lispro	28 days	**Do not refrigerate**
Humalog TempoPen	Insulin lispro	28 days	**Do not refrigerate**
Humalog Mix 50/50 KwikPen	Insulin lispro protamine/lispro	**10 days**	**Do not refrigerate**
Humalog Mix 50/50 vial	Insulin lispro protamine/lispro	28 days	Room or Refrigerated (≤ 86°F [30°C])
Humalog Mix 75/25 KwikPen	Insulin lispro protamine/lispro	**10 days**	**Do not refrigerate**
Humalog Mix 75/25 vial	Insulin lispro protamine/lispro	28 days	Room or Refrigerated (≤ 86°F [30°C])
Humulin N KwikPen	NPH	**14 days**	**Do not refrigerate**
Humulin N vial	NPH	**31 days**	Room or Refrigerated (≤ 86°F [30°C])
Humulin R vial	Insulin human (regular)	**31 days**	Room or Refrigerated (≤ 86°F [30°C])
Humulin R U-500 KwikPen	Insulin human (regular)	28 days	**Do not refrigerate**
Humulin R U-500 vial	Insulin human (regular)	**40 days**	Room or Refrigerated (≤ 86°F [30°C])
Humulin 70/30 KwikPen	NPH/regular	**10 days**	**Do not refrigerate**
Humulin 70/30 vial	NPH/regular	**31 days**	Room or Refrigerated (≤ 86°F [30°C])
Lantus SoloStar pen	Insulin glargine	28 days	**Do not refrigerate**
Lantus vial	Insulin glargine	28 days	Room or Refrigerated (≤ 86°F [30°C])
Levemir FlexPen	Insulin detemir	**42 days**	**Do not refrigerate**
Levemir vial	Insulin detemir	**42 days**	Room or Refrigerated (≤ 86°F [30°C])
Lyumjev pen and cartridge	Insulin lispro-aabc	28 days	**Do not refrigerate**
Lyumjev vial	Insulin lispro-aabc	28 days	Room or Refrigerated (≤ 86°F [30°C])
Novolin N FlexPen	NPH	28 days	**Do not refrigerate**
Novolin N vial	NPH	**42 days (≤ 77° F [25°C])**	**≤ 77°F (25°C), but do not refrigerate**
Novolin R FlexPen	Regular	28 days	**Do not refrigerate**
Novolin R vial	Regular	**42 days (≤ 77° F [25°C])**	**≤ 77°F (25°C), but do not refrigerate**
Novolin 70/30 FlexPen	NPH/Regular	28 days	**Do not refrigerate**
Novolin 70/30 vial	NPH/Regular	**42 days (≤ 77° F [25°C])**	**≤ 77°F (25°C), but do not refrigerate**
NovoLog FlexTouch/FlexPen	Insulin aspart	28 days	**Do not refrigerate**
NovoLog vial	Insulin aspart	28 days	Room or Refrigerated (≤ 86°F [30°C])
NovoLog PenFill Cartridge	Insulin aspart	28 days	**Do not refrigerate**
NovoLog Mix 70/30 FlexPen	Insulin aspart	**14 days**	**Do not refrigerate**
NovoLog Mix 70/30 Vial	Insulin aspart	28 days	Room or Refrigerated (≤ 86°F [30°C])
Rezvoglar KwikPen	Insulin glargine-aglr	28 days	**Do not refrigerate**
Semglee pen	Insulin glargine-yfgn	28 days	**Do not refrigerate**
Semglee vial	Insulin glargine-yfgn	28 days	Room or Refrigerated (≤ 86°F [30°C])
Soliqua 100/33	Insulin glargine + lixisenatide	28 days (≤ 77° F [25°C])	≤ 77°F (25°C), but do not refrigerate
Toujeo (Max) SoloStar pen	Insulin glargine	**56 days**	**Do not refrigerate**
Tresiba FlexTouch pen	Insulin degludec	**56 days**	Room or Refrigerated (≤ 86°F [30°C])
Tresiba vial	Insulin degludec	**56 days**	Room or Refrigerated (≤ 86°F [30°C])
Xultophy 100/3.6	Insulin degludec + liraglutide	**21 days**	Room or Refrigerated (≤ 86°F [30°C])

Insulin Classes and Action Profiles*



Priming Insulin Pens

Prime insulin pens prior to each injection with **2 units except** the following:

Humulin® R U-500 Kwikpen	5 units
Toujeo® SoloStar	3 units
Toujeo® Max SoloStar	4 units
Xultophy® Pen	Select priming symbol

Reference: [1] Hirsch IB. Insulin analogues. N Engl Med. 2005 Jan 13;352(2): 174-83. https//www.ncbi.nlm.nih.gov/pubmed/15647580. [2] Wong EY, Kroon L. Ultra-Rapid-Acting Insulins: How Fast Is Really Needed?. Clin Diabetes. 2021;39(4):415-423. doi:10.2337/cd20-0119. [3] Individual manufacturer product labels.

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